

## **DoD Biometrics Participation in 21-25 February 2005, InterNational Committee for Information Technology Standards (INCITS) M1 Meeting**

The following provides an overview of the participation of the BMO/BFC in the 21-25 February 2005, INCITS M1 meeting.

### **Task Group on Biometric Technical Interfaces (M1.2)**

During the M1.2 meeting, the BMO presented and discussed the following:

- Revised project proposal for a Conformance Testing Methodology for the American National Standards Institute (ANSI) 358-2002, Biometric Application Programming Interface (BioAPI) specification. This project is co-sponsored by the BMO, the National Institute of Standards and Technology (NIST), and the National Biometric Security Project (NBSP). The revised proposal will allow for expeditious development of this standard. M1.2 also discussed the sponsors' technical contribution, based primarily on BMO input, to the Conformance Testing Methodology for ANSI 358-2002, BioAPI specification project.
- BMO's technical contribution to the draft international standard titled, "BioAPI Conformance Testing—Part 1: Methods and Procedures." M1 approved this technical contribution, and will submit it to the international standards body on biometrics (SC37) as the U.S. position for further advancing to its next development stage (Final Committee Draft).

Other discussed items of specific interest to the BMO/BFC are:

- Development of an interoperability specification demonstrating how the various biometric standards work together and basis of how to test systems under various circumstances. This would essentially be an application profile for biometric systems developed by M1.2 for the vendor community. With the wide array of standards published, it is difficult for vendors to understand what standard they are testing to and why they are testing. This application profile would help vendors ensure their systems are developed and operating within an interoperability specification set at the national level.
- Future plans for evaluating and validating BioAPI conformance test suites.
- Status of International Organization of Standardization (ISO) versions of BioAPI and CBEFF. These standards are expected to be finalized by the end of this year.
- SC37 technical report on biometrics tutorial. This report is an on-going project within SC 37, and may be useful to the BMO when completed.
- New proposal for BioAPI Lite, which is a scaled-down version of BioAPI that can be used in embedded architectures, such as PDA.

## **Task Group on Biometric Data Interchange Formats (M1.3)**

During the M1.3 meeting, the BMO presented and discussed the following:

- BMO technical contribution titled, “Conformance Requirements for ANSI/INCITS 381-2004 Finger Image-Based Data Interchange Format & ANSI-INCITS 379-2004 Iris Image Interchange Format”
- BMO revised project proposal titled, “Conformance Testing Methodology for INCITS 381-2004, Finger Image-Based Data Interchange Format”

Other discussed items of specific interest to the BMO/BFC are:

- Project proposal to develop an amendment to INCITS 385-2004 Face Image Data Format that addresses 3D face images. This effort is sponsored by A4Vision, Unisys, Oracle, and Logitech.
- Project proposal to develop an amendment to INCITS 378-2004 Finger Minutiae Data Format that resolves ambiguities within that standard that may cause interoperability problems.
- NIST report on Minutiae Interoperability Exchange Test 2004 (MINEX04). During this discussion, NIST reported 15 vendors had registered to participate in MINEX04, of which eight are international vendors.
- New project proposals for a generalized conformance testing methodology for all biometric data interchange formats, and a number of new and revised project proposals for conformance testing methodologies for specific modalities. These projects will result in a multi-part conformance testing methodology standard—with Part 1 of the standard focusing on a generalized methodology and Part 2 focusing on methodologies for specific modalities.

## **Task Group on Biometric Profiles (M1.4)**

During the M1.4 meeting, the BMO presented and discussed the following:

- BMO technical contribution for the current draft of “Biometric Profile – Interoperability and Data Interchange - DoD Implementations.” The major focus of this document is the need for DoD Red Force biometric applications. M1.4 understands this requirement, and invited the BMO to develop a contribution to this standard with this focus.

Other discussed items of specific interest to the BMO/BFC include:

- M1.4 returned a recommendation to M1 to create a project titled, “Biometric Profiles for Interoperability and Data Interchange—Part 2: Biometric-Based Verification and Identification of Employees in a Token-Based Highly Secure Environment.”

## **Task Group on Biometric Performance Testing and Reporting (M1.5)**

Items discussed during M1.5 of specific interest to the BMO/BFC are:

- Advancement of a draft of the multi-part national standard on biometric performance testing and reporting. This standard includes methodologies for scenario and operational testing. M1.5 also discussed a proposal for an additional part for this standard titled, “Biometric Device Performance Evaluation for Access Control.”
- Formation of new ad-hoc group to investigate the need for a new application programming interface for testing performance of BioAPI devices.

## **Ad-Hoc Group on Multi-modal Biometric Systems**

Items discussed during this ad-hoc group of specific interest to the BMO/BFC are:

- Possible development of a document that details “best practices” on recommended FAR, FRR, and other rates in correlation to specific biometric modalities. No such document exists for multi-modal systems.
- NIST invitation to M1 members to participate in NIST’s research on multi-modal fusion algorithms. NIST is willing to collaborate, plus lend or allow project partners to use specific sets of fusion data collected by NIST. The fusion sets are derived from 517 individuals. NIST is looking to address multi-modal, multi-sample, multi-algorithm fusion; predictions as to how systems scale to very large populations; aspects of system vulnerability; confidence in interval estimation; extreme value statistics; and any other topics researchers find worthwhile. To advance this collaborative effort, NIST indicated it would like to discuss and obtain agreement on a plan to perform joint research on this project. This would involve developing an outline for a research paper, identify contributors for each section of the report, and address any issues associated with performing and conducting this effort.
- The Department of Homeland Security(DHS)/Transportation Security Administration (TSA) provided information on the agency’s anticipated increased participation in national standards development. The DHS/TSA representative noted that the TSA biometric component—which is subordinate to DHS—will soon move to completely operate under DHS (ceasing to exist under TSA). The DHS/TSA representative also briefed the ad-hoc group on an effort to clarify specific language on the process for resolving FRR and FAR for multi-modal systems.
- The BFC was invited to be a co-editor on the final report that will result from this meeting of the ad-hoc group on multi-modal biometric systems. The report will make recommendations to M1.5.

## **M1 Plenary**

During the M1 plenary meeting, participants voted on a number of projects. Votes of specific interest to the BMO/BFC include:

- Approval of all BMO technical contributions
- Approval of project proposal to amend the INCITS 385-2004 Face Image Data Format standard to address three-dimensional face images
- Approval of project proposal to amend INCITS 378-2004 Finger Minutiae Data Format standard to resolve ambiguities within the standard that may cause interoperability problems.
- Approval to release of a draft of the hand geometry data interchange format for public review. If this review is successful, this standard will be publicly available in 2005.
- Approval of a project proposal for a multi-part conformance testing methodology for INCITS biometric data interchange format standards. Within this project, the BMO and BFC will lead the development of the part related to conformance testing for finger image data interchange format. Other parts of this project will be a generalized conformance testing methodology for biometric data interchange formats (NIST, NBSP), face image (Identix), finger minutiae (Cross Match), and iris image (Iridian).